DOCUMENT RESUME

ED 138 730 CE 010 745

TITLE The National Apprenticeship Program.
INSTITUTION Employment and Training Administration (DOL), Washington, D.C.
PUB DATE 76
NOTE 46p.; Some pages may be marginally legible due to small print of the original

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Administrative Policy; Agencies; *Apprenticeships; Federal Government; Federal State Relationship; *Government Role; Industrial Education; Industry; *Job Training; Labor Legislation; National Programs; *Occupational Information; *Personnel Policy; Skilled Occupations; Standards; State Agencies; Veterans
IDENTIFIERS United States

ABSTRACT

A brief explanation of the national apprenticeship program is presented primarily in terms of the more important policies and the role of government in this system of training. Eleven sections are included: (1) What Is Apprenticeship? (2) Why Is Apprenticeship Important? (3) What Can Apprenticeship Do? (4) How the National Apprenticeship Program Operates, (5) Basic Standards of an Apprenticeship Program, (6) Information on Laws and Regulations Affecting Apprenticeship, (7) Veterans' Training Allowances, (8) Where Apprentices Are Employed, (9) Where to Apply, (10) Apprenticeable Occupations, and (11) List of Apprenticeable Occupations. The section on apprenticeable occupations constitutes the majority of the booklet. Ninety-four basic trade classifications are presented, with related occupations grouped under them. Although not final or all inclusive, the list of occupations are those that meet the criteria for apprenticeable occupations and which are included in programs registered with State apprenticeship agencies or the Bureau of Apprenticeship and Training. Each basic trade classification includes the customary term of apprenticeship, in years, and a code number(s) from the "Dictionary of Occupational Titles." Appended are lists of Bureau of Apprenticeship and Training regional offices and State and territorial apprenticeship agencies, and The National Apprenticeship Act, (as amended). (SH)

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The National Apprenticeship Program

U.S. Department of Labor
W.J. Usery, Jr., Secretary
Employment and Training Administration
William H. Kolberg
Assistant Secretary for Employment and Training
Revised 1976

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PREFACE

"He that hath a trade hath an estate; he that hath a calling hath an office of profit and honor."

From *Poor Richard's Almanac*, 1757

The quotation cited above is among the most famous from the writings of Benjamin Franklin, one of our founding fathers who himself was a printer.

In this bicentennial year of our Nation's founding, it is fitting to pay tribute to those patriots—many of them craft workers—who fashioned and formed this great country.

Throughout the 200-year history of our Nation, its development and strength may be attributed in large measure to its skilled workers. From the colonial period to modern times, apprenticeship has proved to be the most effective way to produce the highly skilled craft worker. While the indenture and apprenticeship served by early Americans differ in conditions of employment and service from today's practice, the principle of systematic training on the job—learning by doing—continues to make sense to American industry.

This booklet presents a brief explanation of the national apprenticeship program, a voluntary, free enterprise system developed by American industry that has quality as its goal. Our objective is to provide in simple terms an explanation of the more important policies and the role of government in this traditional system of training.

HUGH C. MURPHY
Administrator
Bureau of Apprenticeship and Training

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WHAT IS APPRENTICESHIP?

Apprenticeship, in simplest terms, is training in industrial occupations that require a wide and diverse range of skills and knowledge, as well as maturity and independence of judgment. It involves planned, day-by-day, on-the-job training and experience under proper supervision, combined with technical studies in subjects related to the trade.

As practiced by modern industry, apprenticeship is a businesslike system giving young workers entering industry thorough instruction and experience, both on and off the job, in all the practical and theoretical aspects of the work required in a skilled occupation, craft, or trade.

As apprentices progress in training, they mature, acquire additional skills, and master the application of those already learned. Through rotation from one division of work to another and instruction in technical subjects related to the trade, they develop independence of judgment. This enables them to be productive during their entire period of training.

Most apprenticeship terms range from 1 to 5 years, depending upon the trade involved. To master a particular trade requires: (1) Learning all or most of the skills of the trade; (2) perfecting each specific skill; (3) bringing each skill up to the speed and accuracy required of the job; and (4) learning to use specific skills in combination with other skills.

WHY IS APPRENTICESHIP IMPORTANT?

One of the greatest assets that this nation has is the skills and know-how of its people. It is imperative that we guard this asset carefully. Our future progress and strength depend upon a conscious concern for human resources, training, and skills.

On the industrial front, craft workers transform the ideas and diagrams of scientists and engineers into the finished product. They build, install, operate, and service the machines in our factories, shops, and offices. They help to build and maintain our atomic installations and perform many varied jobs essential to the smooth running of our industrial machine.

The degree of skill acquired and exercised by the craft worker affects the quality of the work performed. To assure the highest skills, sound and effective training is necessary.

Apprenticeship brings together in a common effort all segments of the economy to train the Nation's youth and achieve a continuing source of skilled workers. It provides guidance and leadership to youth wishing to become skilled in their chosen trades. Equally important, it provides the mechanism necessary to keep training practices abreast of changing industry needs.

WHAT CAN APPRENTICESHIP DO?

Well planned, properly supervised apprenticeship can

1. Provide trained craft workers to meet present and future needs.
2. Assure a supply of skilled workers adequate to meet community needs.
3. Help assure the consuming public of those quality products and services that only trained hands and minds can produce.
4. Increase worker productivity.
5. Give workers greater job security.
6. Improve employer-employee relations.
7. Minimize the need for supervision of journeymen by developing initiative, imagination, and ability.
8. Develop supervisors.
9. Provide versatility necessary to meet changing conditions.
10. Attract capable young men and women to industry.
11. Raise general skill levels in industry.

For the young worker entering employment, apprenticeship offers these important advantages.

1. The opportunity to develop employability to assure economic security.
2. The guarantee of a wage with regular increases while serving an apprenticeship.
3. Recognition as a skilled worker upon completion.

HOW THE NATIONAL APPRENTICESHIP PROGRAM OPERATES

Cooperation between management and labor is essential to effective apprenticeship programs. Employers provide the jobs; journeymen are the instructors, passing on skills and know-how to apprentices. In the American apprenticeship system, management and labor, along with government and the education system, work together at the national, State, and local levels.

THE FEDERAL COMMITTEE ON APPRENTICESHIP

The Federal Committee on Apprenticeship (FCA) is one of the oldest permanent public advisory committees currently operating in the Federal Government. It was created by President Franklin D. Roosevelt in March 1934 and continued pursuant to the National Apprenticeship Act of 1937 (29 U.S.C. 50). The committee is composed of 25 individuals appointed by the Secretary of Labor. Ten of its members are representatives of employers, 10 represent organized labor, and 5, including the chairperson, are from the public. Operating under its charter filed with the U.S. Congress, the FCA advises the Secretary of Labor on apprenticeship and training policies, labor standards affecting apprenticeship, research needs, and other related matters. The FCA meets at least twice a year, and its meetings are open to the public.

NATIONAL JOINT COMMITTEES

At the national level, joint committees set up by national employer associations and international unions develop standards that serve as guidelines for developing local apprenticeship programs. National joint committees stimulate local affiliates to develop and conduct programs and provide information on new techniques, materials, changes in technology, and other training developments. They also employ national apprenticeship directors, whose responsibilities include assisting local joint apprenticeship committees.

THE BUREAU OF APPRENTICESHIP AND TRAINING

The Bureau of Apprenticeship and Training of the U.S. Department of Labor encourages and assists industry in the development, expansion, and improvement of apprenticeship

and training programs. Through its field staff, with offices in every State, the Bureau works with local employers and unions and with State apprenticeship agencies.

STATE AND TERRITORIAL APPRENTICESHIP AGENCIES

Apprenticeship agencies recognized by the U.S. Department of Labor have been established by 29 States, the District of Columbia, the Virgin Islands, and Puerto Rico. Each obtains policy guidance from apprenticeship councils composed of employer, labor, and public representatives. A number have staffs to help employers and unions develop, expand, and improve apprenticeship programs. Their work is carried on as an integral part of the national apprenticeship system in cooperation with the Bureau of Apprenticeship and Training. (A list of State and territorial apprenticeship agencies appears at the back of this booklet.)

STATE VOCATIONAL EDUCATION DEPARTMENTS

Apprenticeship programs combine experience and training on the job with related and theoretical instruction. The experience and training of a machinist apprentice, for example, are usually supplemented by instruction in trade theory, blueprint reading, mechanical drawing, safe and healthful working practices, trade mathematics, physics, and other subjects related to the job. Related instruction is usually given in local trade or vocational schools or other educational institutions. However, some sponsors conduct their own instruction programs or use supervised correspondence courses.

BASIC STANDARDS OF AN APPRENTICESHIP PROGRAM

Each apprenticeship program sets basic standards to make sure that the program provides uniform and effective training that develops the skills required of qualified craft workers. To be registered by a recognized State apprenticeship council or by the Bureau of Apprenticeship and Training, each program must identify the standards it will follow. Each set of standards must cover the following topics:

TRAINING STANDARDS

1. *Work Processes*

The standards must outline the work processes, or specific tasks, that an apprentice will be trained in through supervised work experience or on-the-job training. They should specify how much time will be spent in each major process or division of the trade.

2. *Planned Related Instruction*

Standards should provide for organized instruction in technical subjects related to the apprentice's trade. This may include supervised correspondence or self-study courses, as approved by the applicable law or by policy of the registration agency. At least 144 hours of instruction for each year of apprenticeship is recommended.

3. *Progress Evaluation Records*

The standards should show how the program will periodically review and evaluate the apprentice's progress, in both job performance and related instruction. They should specify how appropriate records of each apprentice's progress will be kept.

4. *Number of Apprentices to be Employed*

Standards should identify a ratio of apprentices to journeymen that is consistent with proper supervision, training, and continuity of employment.

5. *Equal Opportunity in Apprenticeship*

Standards should affirm that the program will provide equal opportunity in recruitment, selection, and all phases of employment and training, in compliance with title 29, Code of Federal Regulations, part 30, as amended, and with State equal employment opportunity plans filed and approved pursuant to this regulation. All programs must be conducted and operated in a nondiscriminatory manner in all aspects of apprenticeship without regard to race, religion, color, sex, or national origin.

6. *Term of Apprenticeship*

Standards should set a term of apprenticeship that is consistent with training requirements as established by industry practice, but in no case less than 1 year or 2,000 hours.

7. *Probationary Period*

Standards should establish a probationary period that is reasonable in relation to the term of apprenticeship. Apprentices should receive full credit toward the completion of their apprenticeship for the time served during this period.

8. *Safety and Health Training*

Standards should state how the program will provide safety training in a healthful workplace for apprentices, both on the job and in related instruction.

ADMINISTRATIVE STANDARDS

1. *Union-Management Cooperation*

Standards should provide for union-management approval of the program where a collective-bargaining agreement exists. Approval may be demonstrated by one or more of the following:

a. Appropriate provisions in the bargaining agreement.
b. Signature to the standards.
c. Letters indicating agreement to the program.
d. Establishment of a joint apprenticeship committee.

2. *Wages*

Standards should set a progressively increasing schedule of wages for apprentices. The entry wage must be at least equal to the Fair Labor Standards Act minimum where applicable, unless a higher wage is required by State law or regulation.

3. *Recognition for Completion of Apprenticeship*

Standards should provide for acknowledgment of successful completion with an appropriate certificate.

4. *Qualifications for Apprenticeship*

Standards should set specific qualifications for apprenticeship, applying equally to all applicants.

5. *Minimum Age*

The starting age of an apprentice should be not less than 16 years.

6. *Apprenticeship Agreement*

Standards should provide for placement of apprentices under an apprenticeship agreement, pursuant to State apprenticeship laws and regulations, or Bureau of Apprenticeship and Training policy where no such State laws or regulations exist.

7. *Credit for Previous Experience*

Under the standards, apprentices should receive credit toward completion of apprenticeship for applicable work experience, training, or demonstrated proficiency, with commensurate wages.

REGISTRATION OF APPRENTICESHIP PROGRAMS

Apprenticeship programs can receive public recognition by being registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor. Programs in States that have no apprenticeship agency can be registered with the Bureau. Registration is recommended for all programs. It is required when certain Federal funds or benefits may be involved. Each registered program must identify its registration agency.

The registration agency registers apprentices, apprenticeship programs, and amendments to programs and receives reports on actions affecting apprentices, such as new hires, cancellations, suspensions, and completions. Each program must put into effect the basic standards of the Bureau of Apprenticeship and Training.

Procedures should provide for maintaining information and statistics on such subjects as:

1. *Modification of Standards*

A program should submit any modification of the program standards to the registration agency. Apprentices employed before such modifications shall not be affected without their consent.

2. *Compliance with Equal Opportunity Regulations*

A program should establish and maintain records on recruitment, selection, and employment in accordance with the requirements of 29 CFR, part 30, as amended.

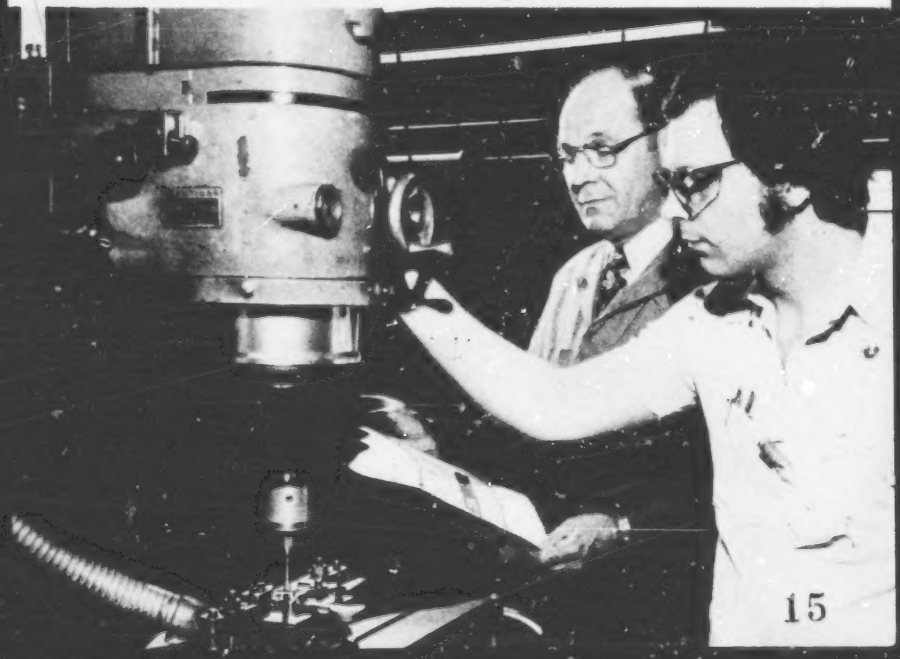
Affirmative action programs have demonstrated that qualified minority members can be recruited and brought into apprenticeship. To assist sponsors in this effort, the Employment and Training Administration of the Department of Labor has established outreach programs in many metropolitan areas. Sponsors are encouraged to participate in these outreach programs in order to meet the requirements of the regulations. Sponsors must also pledge to take affirmative action in all other aspects of program operations.

INFORMATION ON LAWS AND REGULATIONS AFFECTING APPRENTICESHIP

For information on laws and regulations affecting apprenticeship, contact the Bureau of Apprenticeship and Training, Employment and Training Administration, U.S. Department of Labor, Washington, D.C. 20213, or the nearest regional office of the Bureau, listed in the back of this booklet. Information is also available from the State apprenticeship agencies.

VETERANS' TRAINING ALLOWANCES

Training allowances, in addition to regular wages, are available to eligible veterans serving apprenticeships in approved programs. The programs must meet the standards of apprenticeships as published by the Secretary of Labor, and must be approved by the State agency designated to pass on veteran training.



WHERE APPRENTICES ARE EMPLOYED

Apprentices are in training in every major industry. The young person considering apprenticeship has many occupations from which to choose. A list of recognized apprenticeable occupations begins on page 11.

WHERE TO APPLY

Application for apprenticeship may be made to an employer, a labor union, a joint apprenticeship and training committee, or the local State employment service office. Apprenticeship Information Centers at employment service offices in 22 cities help young people qualify for apprenticeship.

APPRENTICEABLE OCCUPATIONS

An occupation recognized as apprenticeable by the Bureau of Apprenticeship and Training is one which:

1. Is learned through experience and training on the job, supplemented by related technical instruction.
2. Involves manual, mechanical, or technical skills and knowledge, requiring a minimum of 2,000 hours of work experience plus related instruction.
3. Is practiced industrywide as an identifiable and distinct trade.
4. Involves the development of skills broad enough to be applicable throughout an industry.
5. Does not fall primarily into any one of the following categories: (a) Selling, (b) managerial, (c) clerical, or (d) professional.[1]

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[1] Professional, scientific, and learned fields requiring specialized, advanced knowledge and academic degrees.

LIST OF APPRENTICEABLE OCCUPATIONS

Listed on the following pages are occupations that meet the criteria for apprenticeable occupations and are included in programs registered with State apprenticeship agencies or the Bureau of Apprenticeship and Training.

The customary term of apprenticeship, in years, is shown for each occupation. In some instances, a range in years is included, representing varying training practices in different industries or localities. Where possible, apprenticeable titles are identified by code numbers relating them to jobs defined in the *Dictionary of Occupational Titles*, published by the U.S. Department of Labor, Employment and Training Administration.

The list of apprenticeable occupations is not to be considered final or all inclusive, because changes are constantly being made to keep pace with technological advances in industry.

Note: The basic trade classifications are shown in CAPITAL LETTERS. Code numbers from the *Dictionary of Occupational Titles* have been used merely as a convenient method of providing reference to a description of the work involved in each of the apprenticeable occupations listed.

Accessories Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.

Accordion Maker (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.

Aircraft-Assembly Mechanic (aircraft manufacturing). *See* AIRCRAFT FABRICATOR.

Aircraft-and-Engine Mechanic (air transportation; aircraft manufacturing). *See* Airplane Mechanic under AIRPLANE MECHANIC.

AIRCRAFT FABRICATOR: Aircraft-Assembly Mechanic (aircraft manufacturing). 3-4 years. 621.381 and 801.381.

Aircraft Machinist (air transportation; aircraft manufacturing). *See under* MACHINIST.

Aircraft Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.

Aircraft-Metalsmith (air transportation; aircraft manufacturing). *See under* SHEET-METAL WORKER.

Aircraft Painter-Doper (air transportation; aircraft manufacturing). *See under* PAINTER-AND-DECORATOR.

Aircraft Plater (aircraft manufacturing). *See under* ELECTROPLATER.

AIRPLANE MECHANIC (air transportation; aircraft manufacturing). 3-4 years.

Accessories Mechanic. 621.281.
Aircraft Mechanic. 621.281.
Airplane Mechanic, aircraft and engine mechanic. 621.281.
Electrical Mechanic. 825.381.
Engine Mechanic. 621.281.
Helicopter Mechanic. 621.281.
Instrument Mechanic. 710.281.

Line-Service Mechanic. 621.281
Propeller Mechanic. 621.281
Radio Mechanic. 823.281

Airplane Woodworker (aircraft manufacturing). *See under* CABINETMAKER-MACHINIST, WOOD

Alteration Tailor (retail trade). *See under* TAILOR

Anodizer (electroplating). *See under* ELECTROPLATER

ARBORIST (any industry). 3 years. 409.181, 407.181, 304.887

Architectural Coatings Finisher (construction). *See under* PAINTER-AND-DECORATOR

Architectural Drafter (any industry). *See under* DRAFTER-DESIGNER

Armament Mechanic (firearms). *See* Artillery Repairer

Artificial Eye Maker (surgical-dental appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN

Artificial-Limb Maker, Metal (surgical-dental appliances). *See* Prosthetist

Artificial-Limb Maker, Wood (surgical-dental appliances). *See* Prosthetist

Artillery Repairer (firearms, ordnance). *See under* MAINTENANCE MECHANIC-REPAIRER

ASBESTOS WORKER: Insulation Worker (construction; heat and frost insulation). 4 years. 863.884

Auto Glass Installation Worker (automotive service). *See under* GLAZIER-GLASS WORKER

Auto-Test-Vehicle-Chassis Mechanic (ordnance). *See* Mobile-Military-Equipment Mechanic

Automobile-Body Repairer (automotive service). *See under* AUTOMOTIVE BODY BUILDER-REPAIRER

Automobile Glazier (automotive service). *See* Auto Glass Installation Worker

Automobile Machinist (automotive service). *See under* MACHINIST

Automobile Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC

Automobile Painter (automotive service). *See under* PAINTER-AND-DECORATOR

Automobile Upholsterer (automotive service). *See under* UPHOLSTERER

AUTOMOTIVE BODY BUILDER-REPAIRER (automobile manufacturing; automotive service). 3-4 years.

Automobile-Body Repairer. 807.381
Custom-Body Builder, Metal. 807.281
Custom-Body Builder, Wood. 807.281
Mobile-Home Builder. 806.884
Truck-and-Trailer-Body Builder. 807.281

Automotive-Test-Engine Mechanic (ordnance). *See* Mobile-Military-Equipment Mechanic

AUTOMOTIVE MECHANIC (automotive service; ordnance). 3-4 years.

Automobile Mechanic. 620.281
Bus Mechanic. 620.281
Heavy-Duty-Equipment Mechanic, construction-equipment mechanic, diesel repairer. 625.281

Mobile-Military-Equipment Mechanic; automotive-test-engine mechanic; autotest-vehicle-chassis mechanic. 620.381 and 625.281.
Motorboat Mechanic. 623.281.
Motorcycle Mechanic. 620.281.
Tractor Mechanic. 620.281.
Truck Mechanic. 620.281.

BAKER (bakery products; hotel and restaurant). 3 years. 526.781 and 313.781.

Bakery-Equipment Mechanic. 629.281. *See under* MAINTENANCE MECHANIC-REPAIRER.
Bank-Note Designer (printing and publishing). *See under* DRAFTER-DESIGNER.
Bank-Note Engraver (engraving). *See under* ENGRAVER.

BARBER (personal service). 2 years. 330.371.

Battenmaker (textile). *See under* WOOD CARVER.
Beauty Operator (personal service). *See* COSMETICIAN.
Ben-Day Artist (printing and publishing). *See* Tint Layer.
Bench Carpenter (furniture, woodworking). *See* Cabinetmaker.
Bench Hand (Jewelry). *See* Jewelry Repairer.
Bench Technician, Eye-Glass Lens (optical goods). *See* Ophthalmic Finisher.
Bindery Worker (printing and publishing). *See under* BOOKBINDER.
Biological Aide (drugs). *See under* LABORATORY TECHNICIAN.

BLACKSMITH (any industry). 4 years. 610.381.

Hammersmith. 612.381; 611.782; 612.782.
Sawsmith, saw straightener-and-repairer (saw manufacturing). 3 years. 701.381.
Spring Maker, Automotive; spring fitter-repairer (automobile manufacturing; automotive service). 610.381; 619.380.
Tool Dresser. 610.381.
Tool Sharpener (stoneworking). 2 years. 610.381.
Boatbuilder, Steel (shipbuilding). *See under* IRON WORKER.
Boatbuilder, Wood (shipbuilding). *See under* CARPENTER.

BOILERMAKER (any industry). 4 years. 805.281.

Boilermaker, Field Erection and Repair (construction). 4 years. (6,000 hours minimum.) 805.281.
Mold Loft Worker; template maker (aircraft manufacturing; boiler making; shipbuilding). 661.381; 601.381; 809.381.
Shipfitter (shipbuilding). 806.381.

BOOKBINDER (printing and publishing).

Bindery Worker. 4-5 years. 977.884; 643.885.
Paper Ruler. 3 years. 659.782.
Bookbinding-Machines Mechanic (printing and publishing). *See under* MAINTENANCE MECHANIC-REPAIRER.

Boot-and-Shoe Maker, Custom (boot and shoe manufacturing). *See under* LEATHER WORKER.
Boot Maker, Custom (boot and shoe manufacturing). *See* Boot-and-Shoe Maker, Custom.
Bottomer, Customer Shoes (boot and shoe manufacturing). *See under* LEATHER WORKER.
Brace Maker (surgical-dental appliances). *See* Orthotist.
Bread Wrapper-and-Label Press Operator (printing and publishing). *See* Specialty Press Operator.

BREWER (malt liquors). 2-3 years. 522.782, 526.885, 029.381.

BRICKLAYER: Brickmason (construction). 3 years. 861.381.

Brickmason (construction). *See* BRICKLAYER.
Bridge-and-Structural-Steel Erector (construction). *See under* IRON WORKER.
Brilliandeerer (jewelry). *See* Lapidary.
Broadcast Technician (broadcast-telecast). *See* Radio Electrician.
Burglar-Alarm Mechanic (any industry). *See* Signal-System Electrician.
Bus Electrician (transportation). *See under* ELECTRICAL WORKER.
Bus Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC.
Busheler (retail trade). *See* Alteration Tailor.
Business-Machines Mechanic (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Butcher (slaughtering and meat packing). *See under* BUTCHER-MEAT CUTTER.

BUTCHER-MEATCUTTER (retail trade; slaughtering and meat packing). 2-3 years.
Butcher. 525.381.
Meatcutter. 316.884, 316.781.
Buttermaker (dairy products). *See under* DAIRY-PRODUCTS MAKER.
Cabinetmaker (furniture, woodworking). *See under* CABINETMAKER-MACHINIST, WOOD.

CABINETMAKER-MACHINIST, WOOD (any industry).
Airplane Woodworker (aircraft manufacturing). 3-4 years. 769.281, 621.281.
Cabinetmaker, bench carpenter (furniture, woodworking). 3-4 years. 660.280.
Casket Maker (mortician goods). 2-3 years. 739.781.
Furniture Maker-Repairer (furniture). 3-4 years. 660.280.
Machinist, Wood; shop carpenter (woodworking). 3-4 years. 669.380.
Cable Installer-Repairer (construction, light and power). *See* Cable Splicer.
Cable Splicer (construction, light and power). *See under* ELECTRICAL WORKER.
Cable Splicer (telephone and telegraph). *See under* TELEPHONE WORKER.
Camera Operator (printing and publishing). *See under* LITHOGRAPHER.
Camera Repair Technician (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

CANDY MAKER (confection). 3-4 years. 529.381.

CANVAS WORKER (any industry). 3 years.

Sailmaker (shipbuilding). 739.381.
Tent-Awning Maker (canvas goods). 739.381.

Cap Cutter (hat and cap). *See under* FABRIC CUTTER.

Card-Room Mechanic (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

CAR REPAIRER (locomotive and car building and repair). 4 years. 622.381.

CARPENTER (any industry). 4 years.

Boatbuilder, Wood (shipbuilding). 860.381.
Carpenter (construction). 860.381.
Carpenter, Maintenance (any industry). 860.281.
Joiner (shipbuilding). 860.381.
Loft Worker (shipbuilding). 661.381; 661.131.
Mold Maker, Wood (brick and tile). 769.781.
Shipwright (shipbuilding). 860.381.

Carpenter (construction). *See under* CARPENTER.

Carpenter, Maintenance (any industry). *See under* CARPENTER.

Casket Maker (mortician goods). *See under* CABINETMAKER-MACHINIST, WOOD.

Caster (construction). *See under* PLASTERER.

Caster (pottery and porcelain). *See under* POTTERY WORKER.

Caster-Mold Maker (jewelry). *See under* JEWELER.

CEMENT MASON (construction). 2 years. 844.884.

Central Office Installer-Repairer (telephone and telegraph). *See under* TELEPHONE WORKER.

Chase-Engraver (jewelry). *See* Engraver-Chaser.

Cheesemaker (dairy products). *See under* DAIRY-PRODUCTS MAKER.

Chemical-Process-Equipment Mechanic (chemical). *See under* MAINTENANCE MECHANIC-REPAIRER.

CHEMICAL-PROCESS OPERATOR (petro-chemical). 3 years. 559.782.

Chief of Party (any industry). *See* SURVEYOR.

Cigar-Making-Machine Mechanic (cigar manufacturing). *See under* MAINTENANCE MECHANIC REPAIRER.

Color Mixer (wallpaper). *See under* WALLPAPER CRAFTWORKER.

Comb Fixer (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

Commercial Artist (any industry). *See under* SIGN, SCENE-AND-PICTORIAL ARTIST.

Commercial Photographer (any industry). *See under* PHOTOGRAPHER.

Composing-Room Machinist (printing and publishing). *See under* MAINTENANCE MECHANIC-REPAIRER.

Composition Roofer (construction). *See under* ROOFER.

Compositor (printing and publishing). *See* PRINTER.

Construction-Equipment Mechanic (construction). *See* Heavy-Duty Repairer.

Contact Lens Technician (optical goods). *See under* OPTICAL TECHNICIAN.

COOK (hotel and restaurant). 3 years. 313.381.

Pastry Cook. 313.381.

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COOPER (cooperage). 4 years. 764.884

Copper Etcher (printing and publishing). See under PHOTO ENGRAVER.
Coppersmith (sheet metal, shipbuilding). *See under* SHEET-METAL WORKER.
Coremaker (foundry). *See under* FOUNDRY WORKER.

COSMETICIAN: Beauty Operator (personal service). 2 years. 332.271.

Custom-Body Builder, Metal (automobile manufacturing). *See under* AUTOMOTIVE BODY BUILDER REPAIRER.
Custom Tailor (retail trade). *See under* TAILOR.
Cutter (any industry). *See* FABRIC CUTTER.
Cutter-Patternmaker, Shoes (boot and shoe manufacturing). *See under* LEATHER WORKER.
Cutting-and-Creasing Press Operator (paper box manufacturing). *See under* PRINTING PRESS OPERATOR.
Cutting-Die Maker (any industry). *See under* TOOL-AND-DIE MAKER.
Cylinder Press Operator (printing and publishing). *See under* PRINTING PRESS OPERATOR.

DAIRY-PRODUCTS MAKER (dairy products). 2-3 years.
Buttermaker. 529.782.
Cheesemaker. 529.381.
Damper-Waterproofer (construction). *See under* ROOFER.
Decorating-Kiln Placer (pottery and porcelain). *See under* POTTERY WORKER.
Dental-Plate Maker (surgical-dental appliances). *See* Dental Technician.
Dental Technician (surgical-dental appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.
Detailer-Drafter (any industry). *See under* DRAFTER-DESIGNER.
Diamond-Die Maker (wire drawing). *See under* TOOL-AND-DIE MAKER.
Die-Casting-Die Maker (machine shop). *See under* TOOL-AND-DIE MAKER.
Die Maker (carbide tools). *See under* TOOL-AND-DIE MAKER.
Die Maker (jewelry). *See under* TOOL-AND-DIE MAKER.
Die Maker (machine shop). *See under* TOOL-AND-DIE MAKER.
Die Maker, Paper (paper goods). *See* Cutting-Die Maker.
Die Sinker (machine shop). *See under* TOOL-AND-DIE MAKER.
Die Stamper (printing and publishing). *See under* PLATE-PRINTER.
Diesel Repairer (automobile service). *See* Heavy-Duty Equipment Mechanic.
Dipper (pottery and porcelain). *See under* POTTERY WORKER.

DRAFTER-DESIGNER (any industry). 3-5 years.
Architectural Drafter (any industry). 001.281.
Bank-Note Designer (printing and publishing). 142.081.
Detailer-Drafter. 017.281.
Electrical Drafter. 003.281.
Engineering Aide. 005.281.
Mechanical Drafter. 007.281.
Structural Drafter. 005.281.
Tool-and-Die Designer (machine shop). 007.081, 007.181.
Topographical Drafter. 017.281.

Drawing-Frame Fixer (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

DRY CLEANER, SPOTTER, AND PRESSER (cleaning, dyeing, and pressing). 3-4 years. 362.782; 362.381; 363.782.

Duplicating-Machines Repairer (any industry). *See* Business-Machines Mechanic.

Dyer, Master (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

Earth-Moving Equipment Mechanic. *See under* OPERATING ENGINEER.

Electric-Motor Repairer (any industry). *See* Repairer-and-Winder.

Electric-Refrigerator Servicer (any industry). *See under* ELECTRICAL WORKER.

Electrical-Appliance Servicer (any industry). *See under* ELECTRICAL WORKER.

Electrical Drafter (any industry). *See under* DRAFTER-DESIGNER.

Electrical-Instrument Repairer (any industry). *See under* ELECTRICAL WORKER.

Electrical Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.

Electrical Repairer (any industry). *See* Maintenance Electrician.

ELECTRICAL WORKER (any industry). 4-5 years.

Bus Electrician (transportation). 825.281.

Cable Splicer; cable installer-repairer; underground electrician (construction; light and power). 829.381; 821.381.

Electrical-Appliance Servicer; Electric-Refrigerator Servicer (any industry). 3 years. 827.281; 637.281.

Electrical-Instrument Repairer. 4 years. 729.281.

Electrician; wirer (construction). 4 years. 824.281.

Electronic Technician; radio-television repairer; radio repairer; television repairer (any industry). 720.281; 003.181; 632.281; 828.281.

Line Erector, outside electrician (construction; light and power). 3 years. 821.281; 821.381.

Maintenance Electrician; electrical repairer; industrial electrician (any industry). 829.281.

Meter Installer-Repairer-Tester; meter-relay tester; meter tester-repairer (light and power). 821.381; 729.281; 710.281.

Power-House Electrician (light and power). 820.281.

Power-Plant-Equipment Mechanic (light and power). 631.281.

Radio Electrician; broadcast technician; radio-station-maintenance electrician; radio-station technician (broadcast-telecast). 823.281.

Radio-Telephone-Communications Technician (telephone-and-telegraph). 823.281.

Repairer-and-Winder; electric-motor repairer; shop electrician (any industry). 721.281.

Ship Electrician; marine electrician (shipbuilding). 825.381.

Sign Electrician (signs). 869.381; 824.281; 729.884.

Signal-System Electrician; burglar-alarm mechanic; fire-alarm mechanic (any industry). 823.281; 829.281.

Electrician (construction). *See under* ELECTRICAL WORKER.

Electromechanical Technician (instruments and apparatus). *See under* MAINTENANCE MECHANIC-REPAIRER.

Electromedical-Equipment Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

Electronic Technician (any industry). *See under* ELECTRICAL WORKER.

ELECTROPLATER (any industry). 3-4 years.

Aircraft Plater (aircraft manufacturing). 501.782.
Anodizer (electroplating). 501.782.
Plater (electroplating). 500.380.
Plater, Plastics (vacuum system). 500.380.

ELECTROTYPER (printing and publishing). 5-6 years. 974.381.

Finisher. 659.380.
Molder. 974.381.
Wax Engraver. 974.381.

Elevator Repairer (construction). *See under* MAINTENANCE MECHANIC-REPAIRER.

Embossing Press Operator (printing and publishing). *See under* PRINTING PRESS OPERATOR.

Enameler (jewelry). *See under* JEWELER.

Engine Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.

Engineering Aide (any industry). *See under* DRAFTER-DESIGNER.

ENGRAVER (any industry). 4-5 years.

Bank-Note Engraver (engraving). 979.781.
Engraver-Chaser; chaser-engraver (jewelry). 704.381.
Etcher, Hand (printing and publishing). 971.381.
Metal Engraver (engraving). 704.381.
Pantograph Engraver (any industry). 779.782; 704.884; 979.781.
Siderographer (engraving). 979.381.
Steel-and-Copper-Plate Engraver (printing and publishing). 979.781.
Wood-Block Engraver (textile, printing and publishing). 979.281.

Engraver-Chaser (jewelry). *See under* ENGRAVER.

Engraving Press Operator (printing and publishing). *See under* PLATE PRINTER.

Envelope-Machine Adjuster (paper goods). *See* Cutting-and-Creasing Press Operator.

ENVIRONMENTAL CONTROL SYSTEMS CRAFT WORKER (any industry). 3 years.

Refrigeration and Air Conditioning Technician; Refrigeration and Air Conditioning Repairer; Heating and Air Conditioning Servicer (residential). 637.281.
Wastewater Treatment Plant Operator; Sewage Treatment Plant Operator (sanitary services). 955.782.
Water Treatment Plant Operator; Filter Operator; Purifying-Plant Operator (waterworks). 954.782.

Etcher, Hand (printing and publishing). *See under* ENGRAVER.

Experimental-Body Builder, Metal (automotive manufacturing). *See* Model Maker, Metal under MODEL MAKER.

Experimental-Body Builder, Wood (automotive manufacturing). *See* Model Maker, Wood under MODEL MAKER.

FABRIC CUTTER: Cutter (any industry). 3-4 years.

Cap Cutter (hat and cap). 781.884, 699.885.
Garment Cutter (garment). 781.884, 699.885.
Glove Cutter (leather products). 781.884, 781.887.
Shirt Cutter (garment). 781.887, 781.884.
Upholstery-and-Seat-Cover Cutter (furniture, retail trade). 780.884.

FARM-EQUIPMENT MECHANIC (automotive service). 3-4 years. 624.281.

Field Engineer (any industry). *See* SURVEYOR.
Film Developer-Printer, Motion Picture (any industry). *See under* PHOTOGRAPHER.
Film Laboratory Technician, Motion Picture (photofinishing). *See under* PHOTOGRAPHER.
Film Laboratory Technician, Still Photograph (photofinishing). *See* Film Laboratory Technician, Motion Picture.
Finisher (garment). *See under* TAILOR.
Finisher (optical goods). *See* Ophthalmic Finisher.
Finisher (printing and publishing). *See under* PHOTO ENGRAVER or ELECTROTYPER.
Fire-Alarm Mechanic (any industry). *See* Signal-System Electrician.

FIRE FIGHTER. 3 years. 373.884.

Fitter, Custom Shoes (boot and shoe manufacturing). *See under* LEATHER WORKER.

FLOOR COVERER: Floor Layer (construction). 3-4 years.

Linoleum, Soft Tile and Carpet Layer, Linoleum-and-Soft Tile Layer. 864.781.
Floor Layer (construction). *See* FLOOR COVERER.

FOUNDRY WORKER (foundry).

Coremaker. 4 years. 518.381.
Melter. 2-3 years. 512.782.
Molder. 4 years. 518.381, 518.782, 693.301.
Full-Fashion-Hosiery-Knitting-Machine Mechanic (hosiery). *See* Knitting-Machine Mechanic.
Fur Cutter (fur goods). *See under* FURRIER.
Fur Finisher (fur goods). *See under* FURRIER.
Fur-Machine Operator (fur goods). *See under* FURRIER.
Furniture Finisher (furniture). *See under* PAINTER-AND-DECORATOR.
Furniture Maker-Repairer (furniture). *See under* CABINETMAKER-MACHINIST, WOOD.

FURRIER (fur goods). 3-4 years. 142.081.

Fur Cutter. 3-4 years. 783.781.
Fur Finisher. 2-3 years. 783.381.
Fur-Machine Operator. 2-3 years. 787.782.

Gage Maker (machine shop). *See under* TOOL-AND-DIE MAKER.
Garment Cutter (garment). *See under* FABRIC CUTTER.
Gas-Engine Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

Gas Fitter (any industry). *See under* PLUMBER-PIPE FITTER.

Gas-Meter Repairer (light and power). *See under* MAINTENANCE MECHANIC-REPAIRER.

Gas Servicer (public utilities). *See under* MAINTENANCE MECHANIC-REPAIRER.

Glass Blower (glass manufacturing). *See under* GLAZIER-GLASS WORKER.

Glass Blower, Laboratory Apparatus (instruments and apparatus). *See under* GLAZIER-GLASS WORKER.

Glass Worker, Shop (construction; glass products). *See under* GLAZIER-GLASS WORKER.

Glassware Engraver-Polisher (glass products). *See under* GLAZIER-GLASS WORKER.

GLAZIER-GLASS WORKER (any industry).

Auto Glass Installation Worker, Automobile Glazier (automotive service). 2 years. 865.884.

Glass Blower (glass manufacturing). 3 years. 575.781.

Glass Blower, Laboratory Apparatus (instruments and apparatus). 3-4 years. 772.281.

Glass Worker, Shop (construction; glass products). 3 years. 775.884; 676.885; 574.884.

Glassware Engraver-Polisher (glass products). 2-3 years. 775.381.

Glazier (construction). 3 years. 865.781.

Neon-Tube Bender (signs). 3-4 years. 824.884; 772.381.

Stained-Glass Glazier (glass products). 4 years. 779.381; 865.381.

Window-Glass Cutter (glass manufacturing). 3 years. 579.887.

Glazier (construction). *See under* GLAZIER-GLASS WORKER.

Glove Cutter (leather products). *See under* FABRIC CUTTER.

Goldsmith (jewelry). *See under* JEWELER.

Grade-and-Paving-Equipment Operator (construction). *See under* OPERATING ENGINEER.

Granite Cutter (stoneworking). *See* Stone Cutter.

Granite Cutter, Sandblaster (stoneworking). *See under* STONEWORKER.

Granite-Lathe Operator (stoneworking). *See* Machine Stonecutter.

Granite Sawyer (stoneworking). *See* Stone Sawyer.

Granite Surface Plate Lapper. *See under* STONEWORKER.

Gun Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

Gunsmith (any industry). *See* Gun Repairer.

Hammersmith (any industry). *See under* BLACKSMITH.

Handler (pottery and porcelain). *See under* POTTERY WORKER.

Hardwood Finisher (furniture). *See* Furniture Finisher.

Harness Maker (leather products). *See under* LEATHER WORKER.

Heating and Air Conditioning Servicer (residential). *See* Refrigeration and Air Conditioning Technician.

HEAT TREATER (heat treating). 4 years. 504.782.

Heavy-Duty-Equipment Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC.

Helicopter Mechanic (air transportation; ordnance). *See under* AIRPLANE MECHANIC.

Heavy-Duty Repairer (construction). *See under* OPERATING ENGINEER.
Hoisting-and-Portable Engineer (construction). *See* OPERATING ENGINEER.
Hub Cutter (jewelry). *See* Die Maker.
Hydraulic Equipment Mechanic (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Impression-Die Sinker (machine shop). *See* Die Sinker.
Industrial Electrician (any industry). *See* Maintenance Electrician.
Industrial-Machine Repairer (any industry). *See* Maintenance Machinist.
Industrial-Sewing-Machine Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Instrument Maker (any industry). *See under* MACHINIST.
Instrument Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.
Instrument Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Insulation Worker (construction; heat and frost insulation). *See* ASBESTOS WORKER.

IRON WORKER (any industry)

Boatbuilder, Steel (shipbuilding). 4 years. 806.381; 819.380.
Bridge-and-Structural-Steel Erector (construction). 3 years. 801.781.
Ornamental-Iron Erector (construction). 3 years. 809.381.
Ornamental-Metal Fabricator (bronze, wire, and metal specialties). 4 years. 809.381; 619.880.
Reinforcing-Iron Worker (construction). 3 years. 801.884.
Structural-Steel Fabricator (structural metals). 4 years. 619.380; 601.381.

Jacquard-Card Cutter (textile). *See* Jacquard Designer.
Jacquard Designer (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

JEWELER (jewelry)

Caster-Mold Maker. 3-4 years. 502.381; 700.381.
Enameler. 2-3 years. 740.884.
Goldsmith. 3-4 years. 700.281.
Jewelry Repairer, bench hand. 3 years. 700.281.
Lapidary, brilliandeerer, stone cutter. 3-4 years. 770.281.
Stone Setter. 3-4 years. 700.381.

Jewelry Repairer (jewelry). *See under* JEWELER.
Jig-and-Fixture Builder (aircraft manufacturing; automobile manufacturing). *See under* TOOL-AND-DIE MAKER.
Joiner (shipbuilding). *See under* CARPENTER.
Kiln Drawer (pottery and porcelain). *See under* POTTERY WORKER.
Kiln Placer (pottery and porcelain). *See under* POTTERY WORKER.
Knitter, Full Fashion (hosiery). *See under* TEXTILE TECHNICIAN-MECHANIC.
Knitting-Machine Mechanic (hosiery; knit goods). *See under* MAINTENANCE MECHANIC-REPAIRER.

LABORATORY TECHNICIAN (any industry). 4 years.
Biological Aide (drug). 559.872.
Laboratory Test Mechanic (aircraft manufacturing). 002.280.
X-Ray Technician, Industrial; radiographer, industrial (any industry). 199.381.

Laboratory Test Mechanic (aircraft manufacturing). *See under* LABORATORY TECHNICIAN.
Lapidary (jewelry). *See under* JEWELER.
Lapper (jewlery). *See* Polisher-Finisher.

LATHER (construction). 2 years. 842.781.

LEAD BURNER (chemical, petroleum and refining; shipbuilding). 5 years. 815.281.

LEATHER WORKER (any industry). 3-4 years.

Boot-and-Shoe Maker, Custom: boot maker, custom (boot and shoe manufacturing). 365.381.
Bottomer, Custom Shoes (boot and shoe manufacturing). 788.884.
Cutter-Patternmaker, shoes (boot and shoe manufacturing). 690.782.
Fitter, Custom Shoes (boot and shoe manufacturing). 690.782.
Harness Maker (leather products). 789.781.
Saddle Maker (leather products). 789.781.
Tanner (leather manufacturing). 585.884; 690.780; 589.387; 582.782.

Leather Worker (surgical-dental appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.
Lens Grinder (optical goods). *See* Ophthalmic Surfacer.
Line-Service Mechanic (air transportation). *See under* AIRPLANE MECHANIC.
Line Erector (light and power). *See under* ELECTRICAL WORKER.
Line Installer-Repairer (telephone and telegraph). *See under* TELEPHONE WORKER.
Liner (pottery and porcelain). *See under* POTTERY WORKER.
Linoleum-and-Soft Tile Layer (construction). *See* Linoleum, Soft Tile and Carpet Layer.
Linoleum, Soft Tile and Carpet Layer (construction). *See under* FLOOR COVERER.
Linotype Machinist (printing and publishing). *See* LITHOGRAPHER.

LITHOGRAPHER, Lithoengraver (printing and publishing). 4-5 years.

Camera Operator; Photolithographer. 972.832.
Lithographic-Press Assistant. 651.782.
Lithographic Press Operator; Offset Press Operator. 651.782.
Platemaker. 972.381; 972.781.
Plate Grainer. 972.782.
Process Artist. 972.281.
Proofer. 651.782.
Stripper-and-Opaquer. 971.381.

Lithographic Press Operator (printing and publishing). *See under* LITHOGRAPHER.
Lock-and-Safe Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Lock-and-Safe Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Locksmith (any industry). *See* Lock-and-Safe Repairer.
Loft Worker (shipbuilding). *See under* CARPENTER.
Loom Fixer (textile). *See* Weave-Room Mechanic.

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Machine Set-Up Operator (paper goods). *See* Cutting-and-Creasing Press Operator.
Machine Stonecutter (stoneworking). *See under* STONEWORKER.

MACHINIST (any industry). 4 years. 600.280.

Aircraft Machinist (air transportation; aircraft manufacturing). 600.280.
Automobile Machinist (automotive service). 600.280.
Instrument Maker (any industry). 600.280.
Machinist, Automatic Screw Machine (any industry). 600.280.
Maintenance Machinist; industrial machine repairer (any industry). 600.280.
Marine Machinist (shipbuilding). 623.281.
Outside Machinist (any industry). 623.281; 600.280.
Precision-Tool Grinder (any industry). 600.280.
Roll Turner (iron and steel). 604.280.

Machinist, Automatic Screw Machine (any industry). *See under* MACHINIST.

MAILER (printing and publishing). 4 years. 239.587.

Maintenance Electrician (any industry). *See under* ELECTRICAL WORKER.
Maintenance Machinist (any industry). *See under* MACHINIST.

MAINTENANCE MECHANIC-REPAIRER (any industry). 2-4 years.

Artillery Repairer; armament mechanic. 4 years. 736.781; 632.281; 801.381.
Bakery Equipment Mechanic. 4 years. 633.281.
Bookbinding-Machines Mechanic (printing and publishing). 4 years. 638.281.
Business-Machines Mechanic; duplicating-machines repairer; office-machines mechanic. 3-4 years. 633.131; 633.281.
Camera Repair Technician. 2 years. 714.281.
Chemical-Process-Equipment Mechanic (chemical). 4 years. 630.281.
Cigar-Making-Machine Mechanic (cigar manufacturing). 3-4 years. 629.281.
Composing-Room Machinist; monotype machinist; printing-equipment mechanic (printing and publishing). 5-6 years. 627.281.
Electro-Mechanical Technician (instrument and apparatus). 710.281.
Electromedical Equipment Repairer (any industry). 2 years. 729.281.
Elevator Repairer. 4 years. 825.381.
Gas-Engine Repairer (any industry). 3-4 years. 625.281.
Gas-Meter Repairer (light and power). 3 years. 710.281.
Gas Servicer (public utilities). 3 years. 637.281.
Gun Repairer; gunsmith; small-arms repairer. 3-4 years. 632.281.
Hydraulic-Equipment Mechanic (any industry). 3-4 years. 638.281.
Industrial-Sewing-Machine Repairer. 3-4 years. 639.281.
Instrument Repairer. 4 years. 710.281.
Knitting-Machine Mechanic; full-fashion-hosiery-knitting-machine mechanic (hosiery; knit goods). 2-3 years. 689.280.
Lock-and-Safe Repairer; locksmith. 3-4 years. 709.281.
Movie Equipment Repair Technician. 2 years. 714.281.
Orthopedic-Shoe Repairer. 3 years. 365.381.
Photographic Equipment Repair Technician. 3 years. 714.281.

Power-House Repairer (light and power) 3-4 years. 631.281.
Pump Repairer. 3 years. 630.281.
Scale Repairer. 3 years. 633.281.
Watch-Clock Repairer. 3-4 years. 715.281.
Wind-Tunnel-Maintenance Mechanic (aircraft manufacturing). 4 years. 827.381.
X-ray Equipment Repairer. 3-4 years. 729.281.

Marble Setter (construction). *See* Stone Setter.

Marine Electrician (any industry). *See* Ship Electrician.

Marine Machinist (shipbuilding). *See under* MACHINIST.

MARKING-DEVICE MAKER (marking device; printing and publishing). 2-3 years.

Rubber-Stamp Maker; rubber-die maker. 733.381.

Masker (printing and publishing). *See under* PHOTO ENGRAVER.

MATTRESS MAKER, CUSTOM (mattress). 2-3 years. 780.884.

Meatcutter (retail trade). *See under* BUTCHER-MEATCUTTER.

Mechanical Drafter (any industry). *See under* DRAFTER-DESIGNER.

Melter (foundry). *See under* FOUNDRY WORKER.

Metal-Denture Maker (surgical-dental appliances). *See* Dental Technician.

Metal Engraver (engraving). *See under* ENGRAVER.

Metal Patternmaker (foundry). *See under* PATTERNMAKER.

METAL POLISHER-AND-BUFFER (any industry). 3-4 years. 705.884.

Polisher-Finisher; lapper (jewelry). 3 years. 705.884.
Sandbobber (holloware; silverware). 3 years. 705.884.

Metal-Sign Maker (sign). *See under* SHEET-METAL WORKER.

Metal Spinner (machine shop). *See under* SHEET-METAL WORKER.

Meter Installer-Repairer-Tester (light and power). *See under* ELECTRICAL WORKER.

Meter-Relay Tester (light and power). *See* Meter Installer-Repairer-Tester.

Meter Tester-Repairer (light and power). *See* Meter Installer-Repairer-Tester.

Micro-Photographer (any industry). *See* Commercial Photographer.

MILLER (grain mill). 4 years. 521.782.

MILLWRIGHT (any industry). 4 years. 638.281.

Outside Machinist (any industry). 4 years.

Mobile-Home Builder (automotive service). *See under* AUTOMOTIVE BODY BUILDER-REPAIRER.

Mobile-Military-Equipment Mechanic (ordnance). *See under* AUTOMOTIVE MECHANIC.

MODEL MAKER (any industry). 4 years.

Model Maker, Metal: experimental-body builder, metal. 693.381; 600.280; 709.381.
Model Maker, Plastic. 709.281; 636.381; 661.381.
Model Maker, Wood: experimental-body builder, wood. 693.380; 668.381; 661.381.

Model-Mold Maker (stationery and art goods). *See under* PLASTERER.

Mold Loft Worker (shipbuilding; aircraft manufacturing; boilermaker). *See under* BOILERMAKER.
Mold Maker (any industry). *See under* TOOL-AND-DIE MAKER.
Mold Maker (pottery and porcelain). *See under* POTTERY WORKER.
Mold Maker, Wood (brick and tile). *See under* CARPENTER.
Molder (foundry). *See under* FOUNDRY WORKER.
Molder (printing and publishing). *See under* ELECTROTYPER.
Monotype Machinist (printing and publishing). *See* Composing-Room Machinist.
Monument Maker (stoneworking). *See under* STONEWORKER.
Motorboat Mechanic (any industry). *See under* AUTOMOTIVE MECHANIC.
Motorcycle Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC.
Mounter (optical goods). *See* Ophthalmic Finisher.
Movie Equipment Repair Technician (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

MUSICAL-INSTRUMENT MECHANIC (musical instruments). 3-4 years.

Accordion Maker. 730.281.
Musical-Instrument Repairer. 730.281.
Piano Repairer-and-Tuner. 730.281; 730.884.
Pipe Organ Builder. 730.281.
Pipe Organ Installer-Repairer. 730.381.
Stringed-Instrument Repairer. 730.281.
Violin Maker. 730.281.

Musical-Instrument Repairer (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.
Neon-Tube Bender (signs). *See under* GLAZIER-GLASS WORKER.
Newspaper (Web) Press Operator (printing and publishing). *See under* PRINTING PRESS OPERATOR.
Ocularist (optical goods). *See* Artificial Eye Maker.
Office-Machines Mechanic (any industry). *See* Business-Machines Mechanic.
Offset Press Operator (printing and publishing). *See* Lithographic Press Operator or *see under* PRINTING PRESS OPERATOR.

OPERATING ENGINEER: Hoisting-and-Portable Engineer (construction). 3-4 years. 859.883.

Earth-moving Equipment Mechanic. 620.884.
Grade-and-Paving-Equipment Operator. 851.883; 852.883.
Heavy-Duty Repairer, construction-equipment mechanic. 620.281.
Plant-Equipment Operator. 859.883.
Universal-Equipment Operator. 859.883.
Well Driller. 859.782; 930.782; 930.280.

Operating Engineer, Stationary (any industry). *See* STATIONARY ENGINEER.
Ophthalmic Finisher (optical goods). *See under* OPTICAL TECHNICIAN.
Ophthalmic Surfacer (optical goods). *See under* OPTICAL TECHNICIAN.

OPTICAL TECHNICIAN, optician, (optical goods). 2-4 years. 713.381.

Contact Lens Technician. 2 years.
Ophthalmic Finisher; Bench Technician, Eyeglass Lens; finisher;

mounter. 711.381.
Precision-Lens Grinder; precision-lens polisher. 675.380; 711.781.
Ophthalmic Surfacer; lens grinder; surfacer. 713.781.

Optician (optical goods). *See* OPTICAL TECHNICIAN.

Ornamental-Iron Erector (construction). *See under* IRON WORKER.

Ornamental-Metal Fabricator (bronze, wire, and metal specialties). *See under* IRON WORKER.

Orthopedic-Shoe Builder (surgical appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

Orthopedic-Shoe Repairer (personal service). *See under* MAINTENANCE MECHANIC-REPAIRER.

ORTHOPEDIC-PROSTHETIC TECHNICIAN (surgical-dental appliances). 1-5 years.

Artificial Eye Maker; ocularist. 713.281.
Dental Technician; dental-plate maker; metal-denture maker; porcelain-acrylic-denture maker. 712.381; 712.281.
Leather Worker. 712.781.
Orthopedic Appliance Technician. 712.281.
Orthopedic-Shoe Builder; pedo-practor. 712.281; 788.281.
Orthotic Technician. 1 year. 712.281.
Orthotist; brace maker. 078.268; 712.281.
Prosthetic Technician. 1 year. 712.281.

Prosthetist; artificial-limb maker, metal; artificial-limb maker, wood. 712.281.

Restoration Technician. 712.281.

Orthotic Technician (surgical appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

Orthotist (surgical-dental appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

Outside Electrician (light and power). *See* Erector.

Outside Machinist (any industry). *See under* MACHINIST or MILLWRIGHT.

PBX Installer (telephone and telegraph). *See under* TELEPHONE WORKER.

PAINT MAKER (paint and varnish). 3-4 years. 550.782.

Paint Maker, Aerosol (paint and varnish). 550.782.

PAINTER-AND-DECORATOR (any industry).

Aircraft Painter-Doper (air transportation; aircraft manufacturing). 2-3 years. 849.781; 845.781.

Architectural Coatings Finisher (construction). 3 years. 840.781.

Automobile Painter (automotive service). 3 years. 845.781.

Finisher, Drywall (construction). 2 years. 842.781.

Furniture Finisher; hardwood finisher (furniture). 2-3 years. 763.381.

Painter (construction). 3 years. 840.781.

Painter (shipbuilding). 3 years. 840.781.

Stained-Glass Painter (glass products). 4 years. 144.081.

Statuary Painter (statuary and art goods). 3 years. 144.081.

Painter (construction). *See under* PAINTER-AND-DECORATOR.

Painter (shipbuilding). *See under* PAINTER-AND-DECORATOR.

Pantograph Engraver (any industry). *See under* ENGRAVER.

Paper-Goods-Machine Adjuster (paper goods; paper box manufacturing). *See* Cutting-and-Creasing Press Operator.

Paper Ruler (printing and publishing). *See under* BOOKBINDER.

Pastry Cook (hotel and restaurant). *See under* COOK.

PATTERNMAKER (foundry). 5 years.

Metal Patternmaker. 600.280.

Wood Patternmaker. 661.281.

Plaster Patternmaker; plaster pattern caster (aircraft manufacturing). 777.381.

Patternmaker, Garment (garment). *See under* TAILOR.

Pedo-Practor (surgical appliances). *See* Orthopedic-Shoe Builder.

PHOTOENGRAVER (printing and publishing). 5-6 years. 971.381.

Copper Etcher. 971.381.

Finisher. 971.391.

Masker. 971.684.

Photographer. 971.382.

Proofer. 651.782.

Router-and-Blocker. 979.782.

Stripper-and-Printer. 971.381.

Tint Layer; ben-day artist. 970.381.

Zinc Etcher. 971.381.

Photograph Retoucher (any industry). *See under* PHOTOGRAPHER.

PHOTOGRAPHER (any industry). 3 years.

Commercial Photographer. Micro-Photographer. 143.062.
Film Developer-Printer, Motion Picture. 976.782.
Film Laboratory Technician, Motion Picture. Film Laboratory Technician, Still Photograph (photofinishing). 976.381.
Photograph Retoucher. 970.281.
Portrait Photographer. 143.062.

Photographer (printing and publishing). *See under* PHOTOENGRAVER or ROTOGRAVURE ENGRAVER.
Photographic Equipment Repair Technician (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Photolithographer (printing and publishing). *See* Camera Operator.
Piano Repairer-and-Tuner (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.
Picture Engraver (engraving). *See* Bank-Note Engraver.
Pipe Fitter (construction). *See under* PLUMBER-PIPE FITTER.
Pipe Organ Builder (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.
Pipe Organ Installer-Repairer (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.
Plant-Equipment Operator (construction). *See under* OPERATING ENGINEER.
Plaster-Pattern Caster (aircraft manufacturing). *See* Plaster Patternmaker.
Plaster Patternmaker (aircraft manufacturing). *See under* PATTERNMAKER.

PLASTERER (construction). 2-4 years.

Caster. 842.781.
Model-Mold Maker (stationery and art goods). 777.381.
Plasterer. 842.781.

Plastic Mold-and-Fixture Maker (fabric, plastic products). *See under* TOOL-AND-DIE MAKER.
Plastics-Tool-and-Die Maker (any industry). *See under* TOOL-AND-DIE MAKER.
Plate Grainer (printing and publishing). *See under* LITHOGRAPHER.

PLATE PRINTER (printing and publishing). 4 years.

Die-Stamper, steel-die embosser. 651.282.
Plate Printer, engraving press operator, press operator, copperplate. 651.782.

Platen Press Operator (printing and publishing). *See under* PRINTING PRESS OPERATOR.
Platemaker (printing and publishing). *See under* LITHOGRAPHER.
Plater (electroplating). *See under* ELECTROPLATER.
Plater, Plastics (vacuum system). *See under* ELECTROPLATER.
Plumber (any industry). *See under* PLUMBER-PIPE FITTER.

PLUMBER-PIPE FITTER (any industry). 4-5 years.

Gas Fitter. 862.381.
Pipe Fitter. 862.381, 862.281.
Plumber. 862.381.
Sprinkler Fitter. 862.381.
Steamfitter. 862.381.

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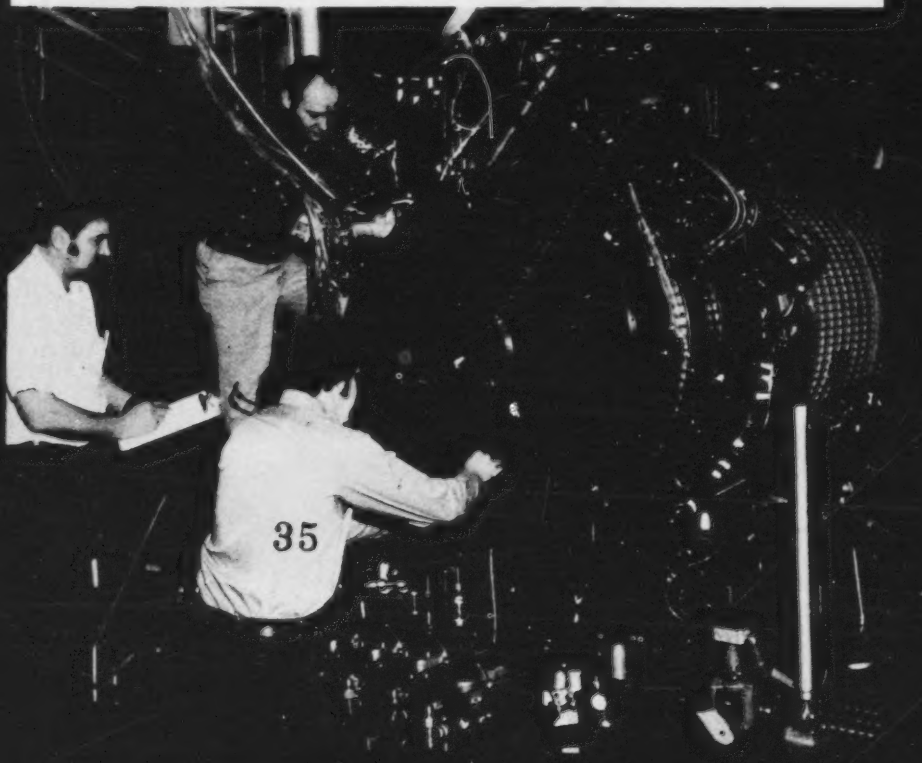
Polisher-Finisher (jewelry). *See under* METAL POLISHER-AND-BUFFER.
Porcelain-Acrylic-Denture Maker (surgical-dental appliances). *See* Dental Technician.
Portrait Photographer (any industry). *See under* PHOTOGRAPHER.
Potter (pottery and porcelain). *See under* POTTERY WORKER.

POTTERY WORKER (pottery and porcelain). 3 years.

Caster. 575.884.
Decorating-Kiln Placer. 573.782.
Dipper. 774.884; 570.885.
Handler. 575.884.
Kiln Drawer. 573.887.
Kiln Placer. 573.886.
Liner. 740.381.
Mold Maker. 777.781.
Potter. 774.884.
Sagger Maker. 774.784.
Tinter. 970.381.
Turner. 774.884.

Power-House Electrician (light and power). *See under* ELECTRICAL WORKER.
Power-House Engineer (any industry). *See under* STATIONARY ENGINEER.



Power-House Operator (light and power). *See under* STATIONARY ENGINEER.

Power-House Repairer (light and power). *See under* MAINTENANCE MECHANIC-REPAIRER.

Power-Plant-Equipment Mechanic (light and power). *See under* ELECTRICAL WORKER.

Precision-Lens Grinder (optical goods). *See under* OPTICAL TECHNICIAN.

Precision-Lens Polisher (optical goods). *See* Precision-Lens Grinder.

Precision-Tool Grinder (any industry). *See under* MACHINIST.

Press Assistant (all branches) (printing and publishing). *See under* PRINTING PRESS OPERATOR.

Press Operator, Copperplate (printing and publishing). *See* Plate Printer.

Printer Cutter-Roller Router (wall paper). *See under* WALL-PAPER CRAFT WORKER.

PRINTER: Compositor (printing and publishing). 4 years. 973.381.

Printer-Slotter (printing and publishing). *See* Cutting-and-Creasing Press Operator.

Printing Equipment Mechanic (printing and publishing). *See* Composing-Room Machinist.

PRINTING PRESS OPERATOR (printing and publishing). 4 years.

Cutting-and-Creasing Press Operator; envelope-machine adjuster; machine set-up operator; paper-goods-machine adjuster; printer-slotter (paper goods; paper box manufacturing). 649.782; 651.782; 641.885.

Cylinder Press Operator. 651.782.

Embossing Press Operator. (printing and publishing). 659.782.

Newspaper (Web) Press Operator. 651.782.

Offset Press Operator. 651.782.

Platen Press Operator. 651.782.

Press Assistant (all branches). 651.782.

Rotary (Magazine) Press Operator. 651.782.

Specialty Press Operator; bread wrapper-and-label press operator. 651.782.

Process Artist (printing and publishing). *See under* LITHOGRAPHER.

Proofer (printing and publishing). *See under* PHOTOENGRAVER or LITHOGRAPHER.

Propeller Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.

Prosthetic Technician (surgical appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

Prosthetist (surgical-dental appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

Pump Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

PUMPER-GAUGER (petrochemical). 3 years. 914.380.

Purifying-Plant Operator (waterworks). *See* Water Treatment Plant Operator.

Radio Electrician (broadcast-telecast). *See under* ELECTRICAL WORKER.

Radio Mechanic (air transportation; aircraft manufacturing). *See under* AIRPLANE MECHANIC.
Radio Repairer (any industry). *See* Electronic Technician.
Radio-Station-Maintenance Electrician (broadcast-telecast). *See* Radio Electrician.
Radio-Station Technician (broadcast-telecast). *See* Radio Electrician.
Radio-Telephone-Communications Technician (telephone and telegraph). *See under* ELECTRICAL WORKER.
Radio-Television Repairer (any industry). *See* Electronic Technician.
Radiographer, Industrial (any industry). *See* X-Ray Technician, Industrial.
Ready-to-Wear Tailor (retail trade). *See* Alteration Tailor.
Refrigeration and Air Conditioning Repairer (residential). *See* Refrigeration and Air Conditioning Technician.
Refrigeration and Air Conditioning Technician (residential). *See under* ENVIRONMENTAL CONTROL SYSTEMS CRAFT WORKER.
Reinforcing-Iron Worker (construction). *See under* IRON WORKER.
Repairer-and-Winder (any industry). *See under* ELECTRICAL WORKER.
Restoration Technician (surgical appliances). *See under* ORTHOPEDIC-PROSTHETIC TECHNICIAN.

RIGGER (any industry). 2 years. 921.280.

Ship Rigger (shipbuilding). 4 years. 806.281.

RIVER PILOT (water transportation). 3 years. 197.133.

Roll Turner (iron and steel). *See under* MACHINIST.

ROOFER (construction). 2-3 years.

Composition Roofer. 866.381.
Damper-Waterproofer. 843.884.
Slate-and-Tile Roofer. 866.381.

Rotary (Magazine) Press Operator (printing and publishing). *See under* PRINTING PRESS OPERATOR.
Roto Etcher (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.
Roto Finisher (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.
Roto Plater-Grinder (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.
Roto Printer-Transferer (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.
Roto Retoucher (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.
Roto Stager (printing and publishing). *See under* ROTOGRAVURE ENGRAVER.

ROTOGRAVURE ENGRAVER (printing and publishing). 5-6 years.

Photographer. 971.381.
Roto Etcher. 971.381.
Roto Finisher.
Roto Plater-Grinder. 500.781.
Roto Printer-Transferer. 976.782.

Roto Retoucher. 970.381.
Roto Stager. 971.884.
Stripper-Layout. 971.381, 141.081.

Router-and-Blocker (printing and publishing). *See under* PHOTOENGRAVER.

Rubber-Die Maker (marking devices; printing and publishing). *See* Rubber-Stamp Maker.

Rubber-Stamp Maker (marking devices). *See under* MARKING-DEVICE MAKER.

Saddle Maker (leather products). *See under* LEATHER WORKER.

Sagger Maker (pottery and porcelain). *See under* POTTERY WORKER.

Sailmaker (shipbuilding). *See under* CANVAS WORKER.

Sample Maker (garment). *See under* TAILOR.

Sandblaster (stoneworking). *See* Granite Cutter, Sandblaster.

Sandbobber (holloware; silverware). *See under* METAL POLISHER-AND-BUFFER.

Saw Straightener-and-Repairer (saw manufacturing). *See* Sawsmith.

Sawsmith (saw manufacturing). *See under* BLACKSMITH.

Scale Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

Section Maintainer (telephone and telegraph). *See under* TELEPHONE WORKER.

Sewage Treatment Plant Operator (sanitary services). *See* Wastewater Treatment Plant Operator.

Sheet-Metal Mechanic (construction; sheet metal; shipbuilding). *See* Sheet-Metal Worker *under* SHEET-METAL WORKER.

SHEET-METAL WORKER (any industry). 3-4 years.

Aircraft Metalsmith (air transportation; aircraft manufacturing). 804.281.
Coppersmith (sheet metal; shipbuilding). 804.281, 862.281.
Metal-Sign Maker (signs). 804.281.
Metal Spinner (machine shop). 619.782.
Sheet-Metal Worker; sheet-metal mechanic; sheet-metal worker; shop (construction; sheet metal; shipbuilding). 804.281.

Sheet-Metal Worker, Shop (construction; sheet metal; shipbuilding). *See* Sheet-Metal Worker.

Ship Electrician (shipbuilding). *See under* ELECTRICAL WORKER.

Ship Rigger (shipbuilding). *See under* RIGGER.

Shipfitter (shipbuilding). *See under* BOILERMAKER.

Shipwright (shipbuilding). *See under* CARPENTER.

Shirt Cutter (garment). *See under* FABRIC CUTTER.

Shoe-Last Maker, Wood (boot and shoe manufacturing). *See under* WOOD CARVER.

Shoe Repairer (personal service). *See under* MAINTENANCE MECHANIC-REPAIRER.

Shop Carpenter (woodworking). *See* Machinist, Wood.

Shop Electrician (any industry). *See* Repairer-and-Winder.

Shop Tailor (garment). *See* Tailor (garment) *under* TAILOR.

Shuttlemaker (textile). *See under* WOOD CARVER.

Siderographer (engraving). *See under* ENGRAVER.

SIGN, SCENE-AND-PICTORIAL ARTIST (any industry) 2-5 years 970.381

Commercial Artist 2 years 144.081, 970.381, 142.081
Sign Painter, Hand (all branches) 970.381
Silk-Screen-Process Printer 979.381

Sign Electrician (signs) *See under* ELECTRICAL WORKER
Sign Painter, Hand (all branches) (any industry) *See under* SIGN, SCENE-AND-PICTORIAL ARTIST
Signal-System Electrician (any industry) *See under* ELECTRICAL WORKER
Silk-Screen-Process Printer (any industry) *See under* SIGN, SCENE-AND-PICTORIAL ARTIST

SILVERSMITH (silverware) 3-4 years 700.281

Solderer 700.781
Spinner 619.782

Sketch Maker (wall paper) *See under* WALL-PAPER CRAFT WORKER
Slate-and-Tile Roofer (construction) *See under* ROOFER
Small-Arms Repairer (firearms, ordnance) *See* Gun Repairer
Solderer (silverware) *See under* SILVERSMITH
Specialty Press Operator (printing and publishing) *See under* PRINTING PRESS OPERATOR
Spindle Carver (textile) *See under* WOOD CARVER
Spinner (silverware) *See under* SILVERSMITH
Spinning-Room Mechanic, Mule or Ring (textile) *See under* TEXTILE TECHNICIAN-MECHANIC
Spring Fitter-Repairer (automobile manufacturing, automotive service) *See* Spring Maker, Automotive
Spring Maker, Automotive (automobile manufacturing, automotive service) *see under* BLACKSMITH
Sprinkler-Fitter (any industry) *See under* PLUMBER-PIPE FITTER
Stained-Glass Glazier (glass products) *See under* GLAZIER-GLASS WORKER
Stained-Glass Painter (glass products) *See under* PAINTER-AND-DECORATOR

STATIONARY ENGINEER: Operating Engineer, Stationary (any industry) 3-4 years 950.782

Power-House Engineer (light and power) 952.782
Power-House Operator, substation operator, switchboard operator (light and power) 952.987, 952.782

Statuary Painter (statuary and art goods) *See under* PAINTER-AND-DECORATOR
Steamfitter (construction) *See under* PLUMBER-PIPE FITTER
Steel-and-Copper-Plate Engraver (printing and publishing) *See under* ENGRAVER
Steel-Die Embosser (printing and publishing) *See* Die Stamper
Steel-Rule Die Maker (paper goods) *See* Cutting-Die Maker

STEREOTYPER (printing and publishing) 5-6 years 975.782

Stone Carver (stoneworking) *See* Monument Maker
Stone Cutter (jewelry) *See* Lapidary

Stone Cutter (stoneworking) *See under* STONE WORKER
Stone Polisher (stoneworking) *See under* STONE WORKER
Stone Sawyer (stoneworking) *See under* STONE WORKER
Stone Setter (construction) *See under* STONEMASON
Stone Setter (jewelry) *See under* JEWELER

STONE WORKER (stoneworking)

Granite Cutter. Sandblaster. sandblaster. 3 years. 771.281
Granite Surface Plate Lapper. 2 years. 775.281
Machine Stone-cutter. granite-lathe operator. 2-3 years. 673.782, 675.782, 673.782
Monument Maker. stone carver. 3-4 years. 771.281
Stone Cutter. granite cutter. 3 years. 771.381
Stone Polisher. turner-polisher. 2 years. 673.782, 775.884
Stone Sawyer. granite sawyer. 2 years. 677.782, 670.782

STONEMASON (construction). 3 years. 861.781

Stone Setter. marble setter. 861.381

STOVE MOUNTER (stove). 3 years. 706.887, 869.281

Stringed-Instrument Repairer (musical instruments) *See under* MUSICAL-INSTRUMENT MECHANIC
Stripper-Layout (printing and publishing) *See under* ROTOGRAVURE ENGRAVER
Stripper-and-Opaquer (printing and publishing) *See under* LITHOGRAPHER
Stripper-and-Printer (printing and publishing) *See under* PHOTOENGRAVER
Structural Drafter (any industry) *See under* DRAFTER-DESIGNER
Structural-Steel Fabricator (structural metal) *See under* IRON WORKER
Substation Operator (light and power) *See* Power-House Operator
Surfacer (optical goods) *See* Ophthalmic Surfacer

SURVEYOR: Chief of Party. Field Engineer (any industry). 4 years. 018.188, 018.168

Switchboard Operator (light and power) *See* Power-House Operator

TAILOR (garment. retail trade). 4 years. 785.261

Alteration Tailor. busheler. ready-to-wear tailor (retail trade). 2 years. 785.281
Custom Tailor (retail trade). 4 years. 785.261
Finisher (garment). 2 years. 782.884
Patternmaker. Garment (garment). 3 years. 781.381
Sample Maker (garment). 3-4 years. 785.381
Tailor. shop tailor (garment). 3-4 years. 785.381

Tanner (leather manufacturing) *See under* LEATHER WORKER

TELEPHONE WORKER (telephone and telegraph). 4 years

Cable Splicer. 829.381
Central Office Installer-Repairer. 822.381, 822.281
Line Installer-Repairer. 822.381

PBX Installer. 822.281, 822.381
Section Maintainer. 822.281
Television Repairer (any industry). *See* Electronic Technician
Template Maker (shipbuilding, aircraft manufacturing, boilermaker). *See* Mold Loftworker
Tent-Awning Maker (canvas goods). *See under* CANVAS WORKER

TERRAZZO WORKER (construction). 3 years. 861.781

TEXTILE TECHNICIAN-MECHANIC (textile)

Card-Room Mechanic. 3-4 years. 681.280
Comb Fixer. 3-4 years. 681.280
Drawing-Frame Fixer. 3-4 years. 681.280
Dyer, Master. 3-4 years. 582.138
Jacquard Designer. jacquard-card cutter. 4 years. 685.781, 683.782, 142.081
Knitter, Full Fashion. 2-3 years. 684.782
Spinning-Room Mechanic, Mule or Ring. 3-4 years. 681.280
Twister-Frame Fixer. 3-4 years. 681.280
Warp-Preparation Mechanic. 3-4 years. 681.280
Weave-Room Mechanic, loom fixer. 3-4 years. 683.280
Weaver. 2-3 years. 683.787
Wool Sorter. 2-3 years. 589.387
Tile Layer (construction). *See* TILE SETTER

TILE SETTER: Tile Layer (construction). 3 years. 861.781

Tint Layer (printing and publishing). *See under* PHOTOENGRAVER
Tinter (pottery and porcelain). *See under* POTTERY WORKER
Tool-and-Die Designer (machine shop). *See under* DRAFTER-DESIGNER

TOOL-AND-DIE MAKER (any industry)

Cutting-Die Maker, die maker, paper, steel-rule-die maker (any industry). 4 years. 739.381
Diamond-Die Maker (machine shop; wire drawing). 4 years. 770.781
Die-Casting-Die Maker (machine shop). 4 years. 601.280
Die Maker. 4-5 years. 601.281
Die Maker (carbide tools). 4 years. 601.281
Die Maker, hub cutter (jewelry). 4 years. 601.381
Die Sinker, trimmer-die sinker and/or impression-die sinker (machine shop). 4-8 years. 601.280
Gage Maker (machine shop). 4-5 years. 601.281
Jig-and-Fixture Builder (aircraft manufacturing; automobile manufacturing). 4 years. 693.280
Mold Maker (machine shop). 4 years. 601.280
Plastic Mold-and-Fixture Maker (fabric, plastics products). 3 years. 754.381
Plastic-Tool-and-Die Maker. 4 years. 601.280
Tool-and-Die Repairer (machine shop). 4-5 years. 601.280
Tool Maker (machine shop). 4-5 years. 601.280
Tool Maker (jewelry). 4 years. 601.280
Wood Tool Maker (aircraft manufacturing). 4 years. 693.280

Tool-and-Die Repairer (machine shop). *See under* TOOL-AND-DIE MAKER.
Tool Dresser (any industry). *See under* BLACKSMITH.
Tool Maker (jewelry). *See under* TOOL-AND-DIE MAKER.
Tool Maker (machine shop). *See under* TOOL-AND-DIE MAKER.
Tool Sharpener (stoneworking). *See under* BLACKSMITH.
Topographical Drafter (any industry). *See under* DRAFTER-DESIGNER.
Tractor Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC.
Trimmer-Die-Sinker (machine shop). *See* Die Sinker.
Truck-and-Trailer-Body Builder (automotive service). *See under* AUTOMOTIVE BODY BUILDER-REPAIRER.
Truck Mechanic (automotive service). *See under* AUTOMOTIVE MECHANIC.
Turner (pottery and porcelain). *See under* POTTERY WORKER.
Turner-Polisher (stoneworking). *See* Stone Polisher.
Twister-Frame Fixer (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.
Underground Electrician (construction; light and power). *See* Cable Splicer.
Universal-Equipment Operator (construction). *See under* OPERATING ENGINEER.

UPHOLSTERER (any industry) 3-4 years.

Automobile Upholsterer (automotive service). 780.381.
Upholsterer (furniture). 780.381.
Upholstery Repairer. 780.381.

Upholstery-and-Seat Cover Cutter (any industry). *See under* FABRIC CUTTER.
Upholstery Repairer (any industry). *See under* UPHOLSTERER.
Violin Maker (musical instruments). *See under* MUSICAL-INSTRUMENT MECHANIC.

WALLPAPER CRAFT WORKER (wallpaper).

Color Mixer. 4 years. 550.884.
Print Cutter-Roller Router. 4-5 years. 979.281.
Sketch Maker. 5 years. 979.781.
Wallpaper Printer. 4 years. 652.782.

Wallpaper Printer (wallpaper). *See under* WALLPAPER CRAFT WORKER.
Warp-Preparation Mechanic (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.
Wastewater Treatment Plant Operator (sanitary services). *See under* ENVIRONMENTAL CONTROL SYSTEMS CRAFT WORKER.
Watch-Clock Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.
Water Treatment Plant Operator (waterworks). *See under* ENVIRONMENTAL CONTROL SYSTEMS CRAFT WORKER.
Wax Engraver (printing and publishing). *See under* ELECTROTYPER.
Weave-Room Mechanic (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.
Weaver (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.
Well Driller (construction). *See under* OPERATING ENGINEER.
Wind-Tunnel-Maintenance Mechanic (aircraft manufacturing). *See under* MAINTENANCE MECHANIC-REPAIRER.

Window-Glass Cutter (glass manufacturing). *See under* GLAZIER-GLASS WORKER.

Wirer (construction). *See* Electrician (construction).

WIRE WEAVER (wirework). 3-4 years. 709.884. 616.885.

Wood-Block Engraver (textile, printing and publishing). *See under* ENGRAVER.

Wood Carver, Hand (any industry). *See under* WOOD CARVER.

WOOD CARVER (any industry). 3-5 years. 761.281. 661.381. 664.782.

Battenmaker (textile)
Shoe-Last Maker, Wood (boot and shoe manufacturing)
Shuttlemaker (textile)
Spindle Carver (furniture)
Wood Carver, Hand (any industry)

Wood Patternmaker (foundry). *See under* PATTERNMAKER.

Wood-Tool Maker (aircraft manufacturing). *See under* TOOL-AND-DIE MAKER.

Wool Sorter (textile). *See under* TEXTILE TECHNICIAN-MECHANIC.

X-ray Equipment Repairer (any industry). *See under* MAINTENANCE MECHANIC-REPAIRER.

X-ray Technician, Industrial (any industry). *See under* LABORATORY TECHNICIAN.

Zinc Etcher (printing and publishing). *See under* PHOTOENGRAVER.

REGIONAL OFFICES, BUREAU OF APPRENTICESHIP AND TRAINING

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STATE AND TERRITORIAL APPRENTICESHIP AGENCIES

Apprenticeship Services
Department of Economic Security
P.O. Box 6123
Phoenix, Ariz. 85005

Division of Apprenticeship Standards
Department of Industrial Relations
455 Golden Gate Avenue
P.O. Box 603
San Francisco, Calif. 94102

Colorado Apprenticeship Council
1313 Sherman Street, Room 423
Denver, Colo. 80203

Apprentice Training Division
Labor Department
200 Folly Brook Boulevard
Wethersfield, Conn. 06109

Delaware State Apprenticeship and Training Council
Department of Labor and Industrial Relations
618 North Union Street
Wilmington, Del. 19805

District of Columbia Apprenticeship Council
605 G Street, N.W., 10th Floor
Washington, D.C. 20001

Bureau of Apprenticeship
Florida State Department of Commerce
1321 Executive Center Drive
Tallahassee, Fla. 32301

Apprenticeship Division
Department of Labor and Industrial Relations
825 Mililani Street
Honolulu, Hawaii 96813

Apprentice Training Division
Kansas Apprenticeship Council
Department of Labor
401 Topeka Boulevard
Topeka, Kans. 66603

Kentucky State Apprenticeship Council
Capitol Plaza Tower, 12th Floor
Frankfort, Ky. 40601

Division of Apprenticeship
Department of Labor
1001 Land and Natural Resources Bldg.
Baton Rouge, La. 70804

Maine Apprenticeship Council
Department of Labor and Industry
State Office Bldg.
Augusta, Maine 04330

Maryland Apprenticeship and Training Council
Department of Labor and Industry
203 East Baltimore Street, Room 1108
Baltimore, Md. 21202

Division of Apprentice Training
Department of Labor and Industries
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Government Center
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Division of Voluntary Apprenticeship
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444 Lafayette Road
St. Paul, Minn. 55101

Montana State Apprenticeship Council
Division of Labor Standards
1331 Helena Avenue
Helena, Mont. 59601

Nevada Apprenticeship Council
Department of Labor
Capitol Complex
Carson City, Nev. 89701

New Hampshire Apprenticeship Council
Department of Labor
1 Pillsbury Street
Concord, N.H. 03301

New Mexico Apprenticeship Council
Labor and Industrial Commission
Suite 212
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Albuquerque, N. Mex. 87101

Bureau of Apprentice Training
Department of Labor
The Campus, Bldg. No. 12
Albany, N.Y. 12226

Division of Apprenticeship Training
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Raleigh, N.C. 27602

Ohio State Apprenticeship Council
Department of Industrial Relations
2323 West Fifth Avenue, Room 250
Columbus, Ohio 43215

Apprenticeship and Training Division
State Office Bldg., Room 446
1400 S.W. Fifth Street
Portland, Oreg. 97201

Pennsylvania Apprenticeship and Training Council
Department of Labor and Industry
Labor and Industry Bldg., Room 1547
Harrisburg, Pa. 17120

Apprenticeship Division
Department of Labor
414 Barbosa Avenue
Hato Rey, P.R. 00917

Rhode Island Apprenticeship Council
Department of Labor
235 Promenade Street
Providence, R.I. 02908

Utah Apprenticeship Council
Industrial Commission
28 East 2100 South, Suite 104
Salt Lake City, Utah 84115

Vermont Apprenticeship Council
Department of Industrial Relations
State Office Bldg.
Montpelier, Vt. 05602

Division of Apprentice Training
Department of Labor and Industry
P.O. Box 1814
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Richmond, Va. 23214

Director of Apprenticeship and Training
Department of Labor
Christiansted, St. Croix, V.I. 00820

Apprenticeship Division
Department of Labor and Industries
318 East Fourth Avenue
Olympia, Wash. 98504

Division of Apprenticeship and Training
P.O. Box 2209
Madison, Wis. 53701

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[1]All agencies, with the exception of Kansas, operate under apprenticeship and/or training laws enacted by the legislature. The agency in Kansas functions under executive order of the Governor.

THE NATIONAL APPRENTICESHIP ACT, AS AMENDED
[29 U.S.C. 50]

50. Promotion of labor standards of apprenticeship

The Secretary of Labor is authorized and directed to formulate and promote the furtherance of labor standards necessary to safeguard the welfare of apprentices, to extend the application of such standards by encouraging the inclusion thereof in contracts of apprenticeship, to bring together employers and labor for the formulation of programs of apprenticeship, to cooperate with State agencies engaged in the formulation and promotion of standards of apprenticeship, and to cooperate with the Office of Education under the Department of Health, Education, and Welfare in accordance with section 17 of title 20.

50a. Publication of information; national advisory committees

The Secretary of Labor may publish information relating to existing and proposed labor standards of apprenticeship, and may appoint national advisory committees to serve without compensation. Such committees shall include representatives of employers, representatives of labor, educators, and officers of other executive departments, with the consent of the head of any such department.

50b. Appointment of employees

The Secretary of Labor is authorized to appoint such employees as he may from time to time find necessary for the administration of this section and section 50a of this title, with regard to existing laws applicable to the appointment and compensation of employees of the United States.

☆U.S. GOVERNMENT PRINTING OFFICE: 1976 – 216-804